A Computational Study of Fiber and Wire Array Z-Pinches

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Abstract

A more general equation of state to include conducting solids and the lower hybrid drift instability collisionality is being added to TRAC2, a 2-D MHD code [1]. Calculations of fiber pinch loads without lower hybrid effects show the growth of sausage-like deformations [2]. The calculations show regions where $V_{de}/V_{Ti} > 1$, suggesting the possibility of lower hybrid fluctuations. The model we are incorporating includes simulation derived collisionality and stabilization by ∇B electron drift and resistive diffusion [3,4].

• Calculations of wire array pinches without the above code modifications will be presented.

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